



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,330	10/23/2001	Paul Mosier	5020-002	7897

35411 7590 02/12/2004  
KILYK & BOWERSOX, P.L.L.C.  
3603 CHAIN BRIDGE ROAD  
SUITE E  
FAIRFAX, VA 22030

EXAMINER

ELEY, TIMOTHY V

ART UNIT	PAPER NUMBER
----------	--------------

3724

DATE MAILED: 02/12/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/018,330

Applicant(s)

MOSIER, PAUL

Examiner

Timothy V Eley

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4,5</u> . | 6) <input type="checkbox"/> Other: ____  |

Art Unit: 3724

#### DETAILED ACTION

##### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the spoke-shaped frame of claim 15 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

##### *Specification*

3. The disclosure is objected to because the last line of page 3 is illegible.

Appropriate correction is required.

##### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3724

5. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

b. The following phrases in the claims lack proper antecedent basis since they were not properly earlier referred to:

i. "the lowermost edge"(claim 1, line 5). Applicant did not previously recite flaps having edges, or any particular orientation of the flaps.

ii. "the angle"(claim 4, line 1). Applicant did not previously recite any particular angle between the backing plate and each flap.

iii. "the angle"(claim 8, line 2). Applicant did not previously recite any particular angle between each flap centerline and a radius of the backing plate.

iv. "the process"(claim 12, line 9; claim 18, line 8). A process was not previously recited.

c. "a centerline . . . plate"(claim 6, lines 1 and 2; claim 16, lines 3 and 4) is vague, indefinite, and/or awkwardly and confusingly worded, and is therefore not fully understood.

Is the centerline actually on a radius of the backing plate, or parallel thereto?

*Claim Rejections - 35 USC § 102*

Art Unit: 3724

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1,2, and 4-11 are rejected under 35 U.S.C. 102(a) as being anticipated by Emerson(5,971,399).

a. Emerson discloses an abrasive flap disc comprising; a backing plate(32), an annular array of flaps(44) of abrasive material on the backing plate and bonded thereto along the "lowermost" edge of each flap(note, every flap is bonded by a lowermost edge, when it is at the top of the annular array as viewed in figures 5 and 6), wherein each flap, at least in a radially outer region, is substantially spaced from each adjacent flap such that the flaps have freedom to flex and conform to an underlying surface in use. See figures 5 and 6, and column 5, lines 6-24.

b. Regarding claim 2, as clearly seen in figures 5 and 6, each flap does not contact an adjacent flap at all.

c. Regarding claims 4 and 5, an angle between the backing plate and each flap is in the range of approximately 40 degrees to approximately 70 degrees.

d. Regarding claims 6-9, the centerline of each flap is not only "on" a radius of the backing plate(since they intersect) but also

Art Unit: 3724

at an angle relative to a radius of the backing plate between approximately 30 degrees and approximately 60 degrees.

e. Regarding claim 10, the flaps comprise abrasive grit bonded to a backing material. See column 3, line 48.

f. Regarding claim 11, the backing plate has a central opening(34) to attach the disc to a drive mechanism.

8. Claims 1,2, and 4-11 are rejected under 35 U.S.C. 102() as being anticipated by Hall 2<sup>nd</sup>., et al(2,907,145.

a. Hall et al discloses an abrasive flap disc comprising; a backing plate(20), an annular array of flaps(26) of abrasive material on the backing plate and bonded thereto along the "lowermost" edge of each flap(note, every flap is bonded by a lowermost edge, when it is at the top of the annular array as viewed in figures 1 and 2), wherein each flap, at least in a radially outer region, is substantially spaced from each adjacent flap such that the flaps have freedom to flex and conform to an underlying surface in use. See figures 1 and 2, column 1, lines 60-end, and column 2, lines 1-27.

b. Regarding claim 2, as clearly seen in figure 3, each flap does not contact an adjacent flap at all.

c. Regarding claims 4 and 5, an angle between the backing plate and each flap is in the range of approximately 40 degrees to approximately 70 degrees.

d. Regarding claims 6-9, the centerline of each flap is not only "on" a radius of the backing plate(since they intersect) but also

Art Unit: 3724

at an angle relative to a radius of the backing plate between approximately 30 degrees and approximately 60 degrees.

e. Regarding claim 10, the flaps comprise abrasive grit bonded to a backing material. See column 2, lines 4 and 5.

f. Regarding claim 11, the backing plate has a central opening(22) to attach the disc to a drive mechanism.

*Allowable Subject Matter*

8. Claims 3, and 12-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 18-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

10. The following is a statement of reasons for the indication of allowable subject matter:

a. Claims 12-20 contain allowable subject matter because the prior art does not teach or suggest in a method of producing an abrasive flap disc, the steps of; rotating a backing plate incrementally, at each incremental step, feeding the ends of a strip of abrasive material on to adhesive on the backing plate, severing the end of the strip to form a flap, and repeating the steps until an annular array of flaps is formed on the backing plate, and curing the adhesive while maintaining each flap in a spaced condition from each adjacent flap.

Art Unit: 3724

*Conclusion*

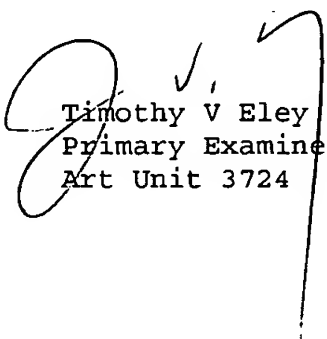
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. The cited prior art discloses abrasive flap discs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy V Eley whose telephone number is 703-308-1824. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N Shoap can be reached on 703-308-1082. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Timothy V Eley  
Primary Examiner  
Art Unit 3724

tve